REMARKS

The Official Action mailed September 21, 2010, has been received and its contents carefully noted. This response is filed within three months of the mailing date of the Official Action and therefore is believed to be timely without extension of time. Filed concurrently herewith is a *Request for Continued Examination*. Accordingly, the Applicant respectfully submits that this response is being timely filed.

The Applicant notes with appreciation the consideration of the Information Disclosure Statements filed on July 6, 2006 and August 23, 2010.

A further Information Disclosure Statement is submitted herewith and consideration of this Information Disclosure Statement is respectfully requested.

Claims 10, 11, 29-33 and 49-53 were pending in the present application prior to the above amendment. Claims 10, 11, 32, 49, and 53 have been canceled without prejudice or disclaimer, claims 29-31, 51 and 52 have been amended to better recite the features of the present invention and new claims 55-60 have been added to recite additional protection to which the Applicant is entitled. Accordingly, claims 29-31, 33, 50-52 and 55-60 are now pending in the present application, of which claims 29 and 55 are independent. For the reasons set forth in detail below, all claims are believed to be in condition for allowance. Favorable reconsideration is requested.

Paragraph 10 of the Official Action rejects claim 49 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Paragraph 13 of the Official Action rejects claims 10, 11, 32 and 49 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 10, 11, 32, and 49 are canceled herewith and thus the above-referenced rejections are moot.

Paragraph 18 of the Official Action rejects claims 10, 11, 29-33 and 49-53 as obvious based on the combination of Synthetic Metals 2004, 146, 85-89 to Liu, U.S. Patent No. 6,660,410 to Hosokawa and U.S. Patent No. 6,242,115 to Thomson. Claims 10, 11, 32, 49, and 53 are canceled herewith and thus the above-referenced rejections

of these claims are moot. Furthermore, the Applicant respectfully submits that a *prima facie* case of obviousness cannot be maintained against independent claim 29 and its dependent claims 30, 31, 33, and 50-52 of the present application, as amended.

As stated in MPEP §§ 2142-2144.04, to establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some reason, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some reason to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The prior art, either alone or in combination, does not teach or suggest all the features of the independent claim 29, as amended. Independent claim 29 has been amended to specifically recite "a hole injecting layer over and in contact with the anode; a layer over the hole injecting layer, the layer including a carbazole derivative; a light-emitting layer over and in contact with the layer; and a cathode over the light-emitting layer." Support for these features can be seen, for example, in Embodiment Mode 3 as originally filed.

Initially, it is noted that Liu teaches a carbazole derivative having two carbazole units linked with a nitrogen atom. It is further noted that the research of Liu is motivated by the requirement of a morphologically stable amorphous hole transporting layer with a

low I_p (ionization potential) and a moderate hole mobility (page 86, left column, lines 29-33). Even though the carbazole compound of Liu, DECMA, is likely to satisfy these requirements, it also requires the use of NPB between the layers of DECMA and Alq_3 (light emitting layer) as shown in Figure 4 of Liu and further described in the first paragraph of section 3.3. This is due to the fact that the low ionization potential of DECMA creates a large energy barrier for the hole injection from the layer of DECMA to the layer of Alq_3. To overcome this, Liu uses an intermediate layer (NPB) which has a HOMO level value enveloped between the HOMO level values of the DECMA layer and the light emitting layer. This intermediate layer prevents a direct contact between the DECMA layer and the light-emitting layer and thus alleviates the barrier effect.

In contrast, independent claim 29, as amended, specifically recites that the carbazole-containing layer is in contact with the light emitting layer (emphasis added). This feature is not taught or suggested by Liu. Additionally, the Applicant respectfully submits that Hosokawa also fails to teach or suggest this additional feature. Thompson teaches a layer containing an asymmetric carbazole used as a hole transporting layer that is in direct contact with the light emitting layer. However, if Liu and Thompson were to be combined, the direct contact between the layer containing the compound of Liu and the light emitting layer would have resulted in a large energy barrier, resulting in an increase in the driving voltage that is contrary to one advantage of the current invention, namely lowering the driving voltage (see abstract).

As noted in MPEP §§ 2145.X.D.2 and 3, "[i]t is improper to combine references where the references teach away from their combination. In re Grasselli, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983)." Also, "[t]he totality of the prior art must be considered, and proceeding contrary to accepted wisdom in the art is evidence of nonobviousness. In re Hedges, 783 F.2d 1038, 228 USPQ 685 (Fed. Cir. 1986) ...." The Applicant respectfully submits that it is improper to combine Liu and Thompson, because the references teach away from their combination, and because the totality of the prior art, once considered, teaches that the Examiner's proposed

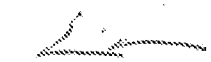
combination would be contrary to accepted wisdom in the art. Therefore, the Applicant respectfully submits that the Official Action has not provided a proper or sufficient reason, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify Liu and Thompson or to combine reference teachings to achieve the claimed invention. For the reasons stated above, the Official Action has not formed a proper *prima facie* case of obviousness. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

New claims 55-60 have been added to recite additional protection to which the Applicant is entitled. The features of claims 55-60 are supported, for example, by Embodiment Mode 4 and paragraphs [0127]-[0139] of the pre-grant publication. For the reasons stated above and already of record, the Applicant respectfully submits that new claims 55-60 are in condition for allowance.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

The Commissioner is hereby authorized to charge fees under 37 C.F.R. §§ 1.16, 1.17, 1.20(a), 1.20(b), 1.20(c), and 1.20(d) (except the Issue Fee) which may be required now or hereafter, or credit any overpayment to Deposit Account No. 50-2280.

Respectfully submitted,



Eric J. Robinson
Reg. No. 38,285
Robinson Intellectual Property Law Office, P.C.
3975 Fair Ridge Drive
Suite 20 North
Fairfax, Virginia 22033
(571) 434-6789